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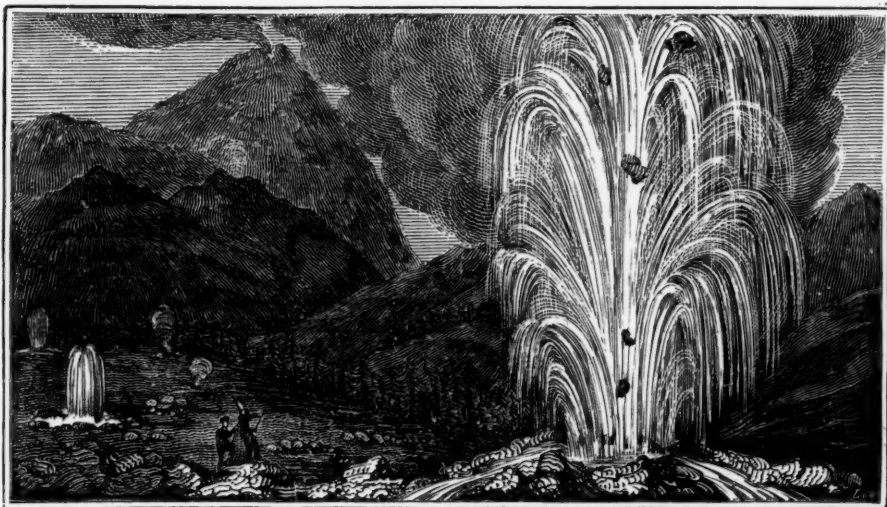
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ONE PENNY.



UNDER THE DIRECTION OF THE COMMITTEE OF GENERAL LITERATURE AND EDUCATION,
APPOINTED BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

THE BOILING SPRINGS OF ICELAND



View of the Great Geyser.

ICELAND, whether naturally or morally considered, is an island equally striking and interesting. Situated in the region of perpetual cold, its whole surface shows most strongly the tremendous operation of those fires which burn for ever beneath our feet; and, lying remote and solitary in the polar sea, its population exhibits the happy effects of early civilization. The blessed influence of Christianity is no where more beautifully displayed. The inhabitants of countries in which the works of nature appear in their utmost grandeur, are in general contemplative, serious, and predisposed to religious impressions; and if such is the case generally, how remarkably must it be so with a people whose footsteps tread on nothing but extinguished lava, who daily look upon the flaming volcano, and see the heavens darkened by clouds of vapour and torrents of boiling water, cast into the air from the bowels of the earth?

The boiling springs of Iceland are among the most sublime as well as beautiful objects of nature. They have been well described by several travellers; by the help of whose accounts we propose now to give a general idea of these magnificent objects.

The principal of these springs are situated in the south-western division of the island, about thirty-six miles from the celebrated volcano, Mount Hecla, and about twelve miles from the village of Shalholt. The steam arising from them, during their eruptions, has been seen at the distance of sixteen miles. The springs mostly rise in a plain, near the base of a low range of hills. Many break out from the sides of the hills; and some very near their summits. Above an hundred of them are contained within a circle of two miles.

Three or four of the principal of these springs are distinguished by the name of *Geyser*, which is said to be the old Scandinavian name for a fountain. The two

which are most remarkable have been called the *Great Geyser*, and the *New Geyser*.

On approaching the *Great Geyser*, when in a quiet state, it presents the appearance of a large circular mound, from the middle of which a quantity of steam is seen to rise. On ascending the side of this mound, there appears a spacious basin, partly filled with hot water, as clear as crystal, and moved by a gentle bubbling. In the centre of the basin there is a round pipe or funnel about eighty feet deep, and eight or ten feet in diameter, but widening near the top, and opening very gradually into the basin, which is about 150 feet round; and, when full, the water it contains is about four feet deep. The inside of it exhibits a whitish surface, consisting of a flinty crust, which has been rendered smooth by the constant action of the boiling water. The mound consists entirely of matter deposited from the water, which is always flowing over the edges of it. On leaving the mound, the hot water passes through a turfy soil; and by acting on the peat, mosses, and other vegetable matters, converts them into stone, and affords beautiful specimens of petrification.

The eruptions take place at very irregular intervals. They are announced by loud explosions in the bowels of the earth, like reports of cannon, which shake the ground, and warn the visitor to remove from the spot. The water, at the same time, begins to boil more and more violently; and at last, the contents of the basin are suddenly projected into the air; successive jets follow irregularly, till a magnificent column of water ascends to a great height, surrounded by immense volumes of steam, which, in a great measure, hide the column of water from the view. The scene, at this period of the eruption, is indescribably grand. The whole surrounding atmosphere is filled with volumes

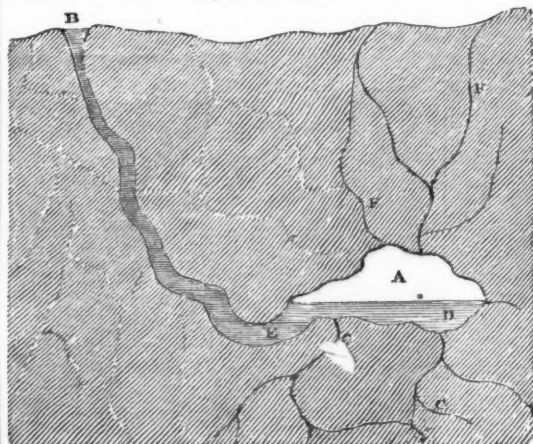
of steam rolling over each other as they ascend, and through which, columns of water, shivering into foam, are seen spreading in all directions. Much of the water is lost in vapour; but the greatest part falls to the ground in heavy showers of spray. As the jets rise out of the basin, the water reflects the most beautiful colours;—sometimes the purest and most brilliant blue; at others, a bright sea-green: but in the further ascent, all distinction of colour is lost; and the jets, broken into a thousand parts, appear as white as snow. Some of them are forced upwards perpendicularly; but many are thrown out in beautiful curves. The eruption thus continues, changing its form at every instant, till the force which drives it from beneath is exhausted. The water then subsides through the pipe, and disappears, but immediately rises again, and fills the basin to the extent already mentioned; and in this state it remains till the next eruption.

Such are the general features of these eruptions, as described by all writers. Some spectators appear to have seen them in different states of activity and magnitude from others; and all of them strain their powers of language to give an idea of the grandeur and beauty of the scene, and the impressions of religious awe which it produces.—“While the jets,” it is eloquently said by Dr. Henderson, “were rushing up towards heaven with the velocity of an arrow, my mind was forcibly borne along with them to the contemplation of the great and omnipotent JEHOVAH, in comparison with whom, these, and all the wonders scattered over the immensity of existence, dwindle into absolute insignificance; whose Almighty command spake the universe into being; and at whose sovereign fiat the whole fabric might be reduced in an instant to its original nothing.”

At a short distance from the *Great Geyser*, is situated the *New Geyser*, also called, from its continual noise, the *Roaring Geyser*. By the natives it is called *Strockn*, a word which literally means ‘a churn.’ The outward appearance of this spring is different from that of the *Great Geyser*. The pipe, which is about forty-four feet in depth, and nine in diameter, is not entirely circular, nor is it so perpendicular as the other. Instead of opening into a basin, it is defended on one side by a low incrustated wall, while, on the other, it is level with the surface of the ground. The eruptions of this spring differ little from those of the *Great Geyser*, except in their lesser size. Dr. Henderson gives the following picture-like description of a joint eruption of both these fountains:—“About ten minutes past five in the morning we were aroused by the roaring of *Strockn*, which blew up a great quantity of steam; and when my watch stood at the full quarter, a crash took place as if the earth had burst, which was instantaneously succeeded by jets of water and spray rising in a perpendicular column to the height of sixty feet. As the sun happened to be behind a cloud, we had no expectation of witnessing any thing more sublime than we had already seen. But *Strockn* had not been in action above twenty minutes, when the *Great Geyser*, apparently jealous of her reputation, and indignant at our bestowing so much of our time and applause on her rival, began to thunder tremendously, and emitted such quantities of water and steam, that we could not be satisfied with a distant view, but hastened to the mound with as much curiosity as if it had been the first eruption we had beheld. However, if she was more interesting in point of magnitude, she gave the less satisfaction in point of duration, having again become tranquil in the course of five minutes; whereas her less gaudy but more steady companion continued to play till within four minutes of six o’clock.” Dr. Henderson adds the sin-

gular circumstance, that, by throwing a quantity of large stones into the pipe of *Strockn*, he could, at any time, bring on an eruption in a few minutes; and that the fragments of stone, as well as the boiling water, were thrown in that case to a much greater height than usual.

It remains to notice the simple and ingenious way by which Mr. LYELL, in his ‘*Principles of Geology*,’ accounts for these grand operations of nature. He explains it by the following figure.



Mr. Lyell adopts the general, and highly probable supposition of a hollow cave at a great depth beneath the earth where water and steam collect, and where the free escape of the steam is prevented till it acquires sufficient force to discharge the water.—Suppose water from the surface of the earth to penetrate into this cavity beneath, represented at the letters A D, by the cracks or rents, F F; while, at the same time, steam, at an extremely high temperature, rises upwards through the cracks C C;—when this steam reaches the cold water in the cavity, a portion of it is at first condensed into water, while it gradually raises the temperature of the water already in the cavity; till at last the lower part of the cavity is filled with boiling water, and the upper part with steam under high pressure. As the pressure of the steam increases, its expansive force becomes greater and greater, and at length it forces the boiling water up the fissure or pipe E B, and a considerable quantity runs over the rim of the basin. When the pressure on the steam in the upper part of the cavity A, is thus diminished, it expands till all the water D, is driven to E, the bottom of the pipe. When this happens, the steam rushes up with great velocity, as on the opening of the valve of a steam boiler. If the pipe be choked up artificially with stones, (as was done by Dr. Henderson) a great increase of heat must take place, for it is prevented from escaping in steam; so that the water is made to boil up in a few minutes, and this brings on an eruption.

Mr. Lyell applies the same principle,—the agency of steam upon melted lava accumulated in cavities in the bowels of the earth—to account for the eruptions of volcanoes, and, though not absolutely demonstrated, there is every presumption in favour of its probability.

PASCAL.

THE life of Pascal is memorable, as exhibiting the singular fame, various ability, and extensive knowledge, which may be acquired at an age scarcely beyond boyhood. Born in 1623, at Clermont in Auvergne, his father a lawyer of rank in the province,

perceived such indications of genius in the child, that he gave up his profession, for the purpose of educating him in Paris. A man of literature and intelligence, he wished to fix his son's attention on the classics. But the boy had already chosen a study for himself, and had unconsciously mastered the rudiments of geometry. This science was so strongly opposed to his father's objects, that he was forbidden ever to speak of it. But the ruling passion prevailed. In solitude his mind teemed with questions and problems; and, in a short period, with only a piece of charcoal and the wall of his chamber for his apparatus, he had formed diagrams of a set of propositions up to the thirty-second of the first book of Euclid: at twelve, he had been as it were the discoverer of a science!

The celebrated Descartes was then at the head of scientific fame. The boy, at the age of sixteen, presented him with a "Treatise on the Section of the Cone." It won the philosopher's highest applause.

His father's reluctance was now overcome; and this extraordinary boy was suffered to pursue his triumphs at his will.

The discoveries of Torricelli had attracted general attention. The invention of the air-pump and of the barometer, which is now become our weather-glass, had just awoke the whole scientific world. The power of grasping the impalpable air, of reducing the whirlwind to weight and measure, of expelling it at pleasure from space, of gauging the heights and depths of the valley and the mountain, of foretelling the capricious changes of the elements, all formed a magnificent addition to the command of man over Nature. Pascal applied himself to the study with his characteristic vigour; and, in a series of admirable experiments, showed an equal skill in practical science and in its abstract studies. He was now twenty-four, and had established his rank among the most eminent names. Five years earlier, he had invented a calculating machine, which proved his mechanical dexterity, and to which even the skill of our later day has ventured to add but little. It was the custom at this period to circulate problems or questions to be answered by the leading mathematicians. Father Mersenne had circulated a problem, demanding to find out the laws and properties of a curve formed by the movement of a point in a coach-wheel. That such a problem should have puzzled men of science may raise a smile; but difficulties are to be judged of in reference to their time. Pascal fixed his mind on the problem; and to the surprise, and perhaps the chagrin, of the proposer, answered him by a complete solution.

But a painful and melancholy change was soon to show the uncertainty of human genius, vigour, and wisdom. The quarrels of the Jansenists and Jesuits convulsed France. The retired habits and metaphysical mind of Pascal found a kindred spirit in the reveries of Jansenism. He became a member of the celebrated Society of Port Royal, and rapidly distinguished himself by his zeal in their defence, his ardent adoption of their principles, and his submission to their austerities. Of an infirm constitution, and even that constitution exhausted by labour, he put himself under the most rigid and exhausting discipline. He is said to have worn an iron chain next his skin: he fasted, practised various mortifications to wean himself from what he termed the evils of the world, and, at length, by one of those extravagances which form the character and the punishment of religious enthusiasm, he broke off all intercourse with his relations and friends. He was now but thirty, but mentally and bodily he was in advanced age. His frame, withering away under discomfort, solitude, and cheerless study, and his mind wandering in airy speculations,

An accident, in the year 1654, added earthly terror to the gloom and fears of the invisible world. His decaying health had rendered exercise necessary, which he was in the habit of taking in a carriage. One day the horses took fright, and ran into the Seine. The carriage was fortunately checked on the edge of the bank, and Pascal was saved: but from this moment the remembrance of his danger never left his mind. A precipice seemed perpetually to open before him; and, even when in his chamber, he dreaded to look over the side of his chair, lest he should see the gulph yawning for him below. He now saw visions, and dreamed dreams, lay in trances, and held converse with things not of earth. Pascal was mad.

Yet in the midst of this life of severity, by one of those splendid efforts by which genius vindicates itself in its lowest humiliation, Pascal produced the "Provincial Letters," a satire on Jesuitism, one of the most powerful and popular achievements in the history of literature. It was the first resolute blow given to the Jesuits in Europe, and it was effectual: it laid the axe to the root of the tree. But its author was soon to be insensible to the applause which showered on him from every part of Europe. He was a broken old man, a recluse, and sunk into hopeless melancholy. During his latter years he was accustomed to think and talk much of religion, and to record his thoughts on fragments of paper. His object was one which might have well and worthily occupied the highest mind,—a defence and illustration of Christianity; but his powers were now worn away. In this occupation he lingered down to the grave, dying, in 1662, at the age of thirty-nine; a period at which the human intellect has scarcely more than reached its vigour, and is little more than beginning to acquire the experience which alone can render the spring and elasticity of genius, safe, dignified, and wise.

His works were collected soon after his death, and received by the learned world with the honours due to his name. His death was universally regretted, as the premature extinction of one of the lights of his country. Yet he cannot be said to have fallen short of the years of man, who has accomplished in few, more than thousands and tens of thousands accomplish in many. And Pascal, at thirty-nine, loaded with the palms of science, literature, and religion, had justly earned his title to immortality.

LINES ON A BROOK.

Look at this brook, so blithe, so free!

Thus hath it been, fair boy! for ever,

A shining, dancing, babbling river;

And thus 'twill ever be;—

'Twill run, from mountain to the main,

With just the same sweet babbling voice

That now sings out, "Rejoice, rejoice!"

Perhaps 'twill be a chain

That will a thousand years remain;

Ay, through all times and changes last,

And link the present to the past:

Perhaps upon this self-same spot,

Hereafter may a merry knot

(My children's children!) meet and play,

And think on me, some summer's day;

And smile (perhaps through youth's brief tears,

While thinking back through wastes of years.)

And softly say—

"'Twas here the old man used to stray,

And gaze upon the sky; and dream,

(Long, long ago!) by this same stream.

He's in his grave! Ungentle Time

Hath dealt but harshly with his rhyme;

But we will ne'er forget, that he

Taught us to love this river free."

P

THE AIR BRAHMIN.

MOST of our readers will recollect the celebrated Indian Jugglers, who a few years ago visited England, and performed some very extraordinary feats at public exhibitions. One of them had acquired the astonishing and dangerous power of passing a naked metal blade into his stomach, or, as he himself termed it, of "swallowing a sword." He fell a sacrifice to his temerity: in one of his performances, the blade taking a wrong direction, wounded him internally, and he expired in violent convulsions.

Another person of this description, but of a higher native caste, has lately appeared in India. His performance, though of a no less astonishing, is altogether of a harmless, nature. By the kindness of a friend we are enabled to present our readers with an engraving, from the original drawing of an Indian artist, together with an account, which may be relied upon, of this singular person, as he appears when exhibiting this strange feat.



The drawing was taken at the Government House at Madras, and represents the Cuddapah Brahmin, named Sheshal, in the act of sitting in the air, apparently without any support, an exploit which he performs with great address. When he is about to exhibit, his attendants surround him with a blanket so as to screen him from the view of the spectators till he is mounted; a signal is then given, the blanket is removed and he is beheld sitting in the posture represented in the sketch.

The only part of his body which appears to have any support whatever is the wrist of his right arm, which rests upon a deer skin rolled up and fixed

horizontally before him to a perpendicular brass bar. This brass bar is fitted into the top of a small four legged stool, near one end of it. While in this attitude he appears engaged in prayer, holding in his hand a number of beads, and having his eyes half-closed. As soon as the exhibition, which usually continues only a few minutes, has ended, he is again screened by his attendants till he has dismounted and taken the whole of his apparatus to pieces, when he produces only the stool, the brass bar, and the deer skin for the inspection of the spectators.

In person he is a slender, middle sized man, and has attained a considerable age. He wears a long chintz gown, a yellow dyed turban, and a high waist-band. Around his neck is suspended a row of large Pundaram beads.

Sheshal is frequently invited to the gardens of gentlemen residing at Madras, for the purpose of exhibiting his singular skill. By this means he obtains a considerable sum of money. A friend who has witnessed his performance, writes us the following account of it from Tanjore.

"He exhibited before me in the following manner: he first allowed me to examine a stool about 18 inches in height, on the seat of which were two brass stars inlaid, a little larger than a dollar; he then displayed a hollow bamboo 2 feet in length and $2\frac{1}{2}$ inches in diameter. The next article was a roll of antelope skin, perhaps 4 inches in circumference, and 2 feet in length. The man then concealed himself in a large shawl, with these three articles and a large bag; after a delay of five minutes, during which he appeared very busy under the shawl, he ordered the covering to be taken off him, and he was discovered actually sitting cross-legged on the air; but leaning his right arm on the end of the antelope skin, which communicated horizontally with the hollow bamboo, which again was connected perpendicularly with the stool immediately over one of the brass stars. He sat for more than half an hour, counting his beads in his right hand, and without once changing the expression of his countenance which was quite calm, and as if this new mode of sitting was no exertion to him.

"I saw him exhibit four times, and each time tried my utmost to discover the secret but without success. A large bribe was offered to induce him to reveal his mode of performance, but he declined the explanation.

"I account for it thus. The brass stars conceal a receptacle for a steel bar passing through the hollow bamboo; the antelope skin conceals another steel rod which is screwed into the one in the bamboo; other machinery of the same kind passes through the man's sleeves and down his body, and supports a ring on which he sits."

MILTON'S RETREAT DURING THE PLAGUE.

WHEN the Great Plague was ravaging the metropolis, Milton removed to the small house which is here represented, and which is situated at Chalfont St. Giles, in Buckinghamshire. It had been hired for him by his friend Elwood, the Quaker, who was then residing in the vicinity, having been driven from London by the persecutions he experienced on account of his peculiar tenets. "Here," says Dr. Symmons, in his Life of Milton, "the young quaker called upon his friend and received from him a manuscript, which the author desired him to carry home and to read at his leisure. This manuscript was that of *Paradise Lost*. 'After I had with the best attention read it through,' says the respectable Elwood, 'I made him another

visit, and returned him his book, with due acknowledgment of the favour he had done me in communicating it to me. He asked me how I liked it, and what I thought of it: which I modestly and freely told him; and, after some further discourse, I pleasantly said to him, Thou hast said much here of Paradise lost; but what hast thou to say of Paradise found? He made me no answer, but sat some time in a muse: then broke off that discourse, and fell upon another subject. After the sickness was over, and the city well cleansed and become safely habitable again, he returned thither; and when afterwards I went to wait upon him, which I seldom failed of doing whenever my occasions led me to London) he showed me his second poem, called *Paradise Regained*, and in a pleasant tone said to me, this is owing to you, for you put into my head by the question you put to me at Chalfont, what before I had not thought of.



"The term of Milton's residence at Chalfont has not been precisely specified; but from the circumstances to which it was accommodated, the prevalence and the extirpation of the plague in the capital, we may infer that it extended from the June or the July of 1665 to the March or the April of the following year. In this period, as I fully concur in opinion with its editor, Mr. Dunster, was the poem of *Paradise Regained* not only begun, but brought to its conclusion. It was shown, as we have just been informed, to Elwood on his first visit to London after the author's return from Chalfont; and there is nothing in the poem, whether we respect its length or the style of its composition, evidently marked with the characters of haste, which can induce us to reject as improbable the fact of its production, by a mind like Milton's, in the space of ten months.

ON THE DUTIES AND ADVANTAGES OF SOCIETY.

NO. I.—INTRODUCTORY.

If people always knew and kept in mind the obligations they are under to society, they would be much better members of it, and much happier in every respect. Robinson Crusoe, on the desert island, before he got his man "Friday," is a picture of solitude which every body knows. But the picture of solitude there given, though it be pleasantly painted, is far from being true. All the arts, stratagems, and contrivances which Crusoe puts in execution, are derived from society. Crusoe is not a solitary, nor even a savage; and though his means of gratification are different, his desires are just the same as if he had been all the time in England.

We who have lived all our time in society, can form no notion of what a wretched and destitute creature man would be if he were alone, and had never profited by the aid, the instruction, or the example of others. But it is certain, that the very hum-

blest individual in the country—he who knows the least and fares the worst—owes far more to society than he does to himself. The good institutions, and all that is excellent in society, are the result of the labours of the wise and the good through many ages,—from the very beginning of civilization indeed; for nations are the scholars and imitators of nations, just as men are the scholars and imitators of men.

Thus, when we reflect duly, we discover that every man who earns his bread in society, is indebted to society for it. Take a man who digs the ground:—how did he find out that digging the ground would make it more fertile? Where did he obtain a spade? Who taught him how to use it? Who instructed him as to the roots which it is best to plant, and the seeds which it is best to sow; or who told him the times at which the planting and the sowing could be done to the greatest advantage? Certainly not himself; for before any man could have found out the way and the time of doing the very simplest thing that the humblest labourer has occasion to do, the term of his life would have been out, and he would have been in his grave. Indeed his term would have been but short, for he would have died of hunger before he had been long in existence.

This debt to society is not confined to those in humble life; for the higher the station, the debt is the greater; because all civilization, all knowledge, and all enjoyment, except those which man has in common with the beasts, had their origin in society, and were by society brought to the condition in which we find them. We are, in fact, debtors to society for the wisdom and the improvements of more ages than we have years to spend in it. That wisdom and those improvements are talents committed to our care, and if we do not hand them down to the generation which is to come after us, in a more valuable condition than we ourselves received them in, we are shamefully ungrateful to our fathers, and cruelly unjust to our children.

The common boast of a rich man that, "he can pay his way, and is obliged to nobody," is a very silly boast; for the man is a debtor to others for all that he possesses; and of course the larger his possessions are, the more he is in debt. That debt is, however, due only to society generally; and therefore no individual member of society is entitled to ask payment of it. It is not a debt which can be paid with money. It must be paid in conduct; and in doing those particular duties which belong to his station.

In like manner, the man who is destitute, who possesses nothing, and has nothing to do, is not independent of society, for to society he is indebted for his very powers of doing; and if he has had opportunities of turning those powers to account, and has neglected them, he is more deeply and more criminally a debtor. However wretched he may feel, or may be in reality, he is still much better than if he were not in society; for then he would be without the abilities of doing; whereas, the very worst that can happen in society, is being without the opportunity or the will of turning those abilities to account. It is not always very easy to distinguish between the want of opportunity and the want of will, because there is a will to find opportunity, as well as a will to improve it, when it is known; and in both cases, the proverb, "where there is a will there is a way," holds true.

There are only two classes of persons who can be strictly said to have claims upon society; those to whom Providence has denied, or has taken away, those abilities which, called forth as they are by society, may be considered as "the stock in trade"

of social man; and those who have done society more than the average good, according to their means and opportunities. The first is not so much a claim of right as a claim of pity, and should be voluntary on the part of the giver. The other is more a claim of right; but it is one which is very difficult to adjust and settle equitably. When the matter is left to be decided by the public generally, we but too often find that they award the prize to him who claims it in the most noisy and forward manner; and every day shews that the floating opinion of the public, which, after all, is nobody's opinion, because nobody is responsible for it, changes from praise to censure, or from censure to praise, without any reasonable cause for either.

Nothing, however, is plainer, than that all who can support themselves, are bound to do it; and that those who claim support from others, without being able to shew in the most clear and satisfactory manner, that they cannot support themselves, are not only guilty of an injustice to society, for which society may punish them, but that they are degraded in their own estimation, and thereby rendered incapable of the good which they otherwise might do, and the pleasure which they otherwise might feel. Even if the support obtained in this manner be of the most temporary nature, it destroys our confidence in our own exertions, and breaks down the manly tone of the character to a far greater extent than they who have not studied it, and watched its effects, would suppose. A man who readily finds charitable maintenance when out of work, will be less zealous in search of employment, than if starvation appeared in his view as the necessary associate of idleness. There may be cases, and numerous cases, especially in sickness, where those means of relief must be resorted to; but the experience of all ages has shewn them to be bad as a general system, and even worse to the relieved than to the relievers.

The cases of individuals and of nations mutually throw light upon each other. Nations have their times of distress and of stagnation of business, just as individuals have theirs of sickness and want of employment. Though the cases are not quite parallel, a nation is a member of the world, just as one man is a member of society. Now, it has always been found that attempts to support a nation with any thing like character and independence, at the cost of other nations, has uniformly failed—ended in the degrading of that nation, and the blotting out of its name from the map. If England had to beg of France, or France of England, at every time of temporary distress, the begging country would soon come to an end. In like manner it has been found that all attempts to support classes of society upon the bounty of other classes, have failed—plunged the supported class into deeper and deeper misery, and, if long continued, worked its final ruin.

One nation may help another, and so may one class of society; but then, in order that the help may do good—in order that it may not actually do evil, it must be mutual. "Help us now in our need, and when your time of trouble comes, apply to us, and we shall not be backward," are the words which, spoken or implied, turn that which otherwise would be evil, into good.

Among individuals, the most noble and valuable of all help is helping one's self; and if that were in all cases possible, none other would be necessary. But there are cases, and those too of the most urgent nature, in which there can be no self help; and it is for these that society is peculiarly called upon to provide. On a future occasion we shall point out one

of the least exceptionable means of making that provision. We may anticipate so far as to say that BENEFIT SOCIETIES are the means to which we more particularly allude. But, as the subject is very important, and as the examination of it will require some extent, we shall bring it before our readers from time to time, in small portions; and we most earnestly solicit their candid and patient attention.

THE HYMN OF THE LANCASHIRE COTTON-SPINNER.

Oh, God! my God! from morn to night
I see thy guiding hand!
Through every hour I feel thy might,
I hear thy dread command!

How wild, unto the strangers' eye
These busy scenes appear!
What sights uncouth around them lie;
What jarring sounds they hear!

Yet I, who know each whizzing wheel,
Each dancing spindle know,
See skill, where they confusion feel,
And Art from Discord grow.

I know their object, use, and end;
They act from hour to hour,
And to a glorious issue tend—
Impell'd by one great Power!

And, if with such a skillful eye
I could my being scan,
No doubt my spirit would descry
That such machine is MAN!

Confusion seems his steps to guide,
And discord haunts him still;
Yet one GREAT BEING rules his pride,
And bends him to his will.

Then let me learn, from what I see,
To credit what I hear,
And know my Saviour works for me,
While I am working here!

Teach me to feel my thread of life
By hands Divine is spun,
An still in sorrow, want, and strife,
To say—"God's WILL BE DONE!"

St. Abs.

R. P.

STEAM ENGINES IN 1543.

It appears from a late valuable publication, Navarrete's *Collection of Spanish Voyages and Discoveries*, that the first known experiment of propelling a vessel by the agency of steam, was made at Barcelona, more than eighty-five years before the idea of procuring motion by means of it was first started by Brancas in Italy; more than a century before this power was applied to any useful purpose by the marquis of Worcester in England; and near three centuries before Fulton, adapting and combining the inventions of a host of contemporary mechanics, successfully solved the same wonderful problem in the United States. Singular, however, as the fact may be, it is fully established by various documents lately found in the archives of Simancas, and is so circumstantially stated as to be incontrovertible.

In the year 1543, a certain sea-officer, called Blasco de Gavay, offered to exhibit before the emperor Charles V. a machine by means of which a vessel should be made to move, without the assistance of either sails or oars. Though the proposal appeared ridiculous, the man was so much in earnest, that the emperor appointed a commission to witness and report upon the experiment. The experiment was made the 17th of June, 1543, on board a vessel called the Trinidad, of two hundred barrels' burden, which had lately arrived with wheat from Colibre. The vessel was seen at a given moment to move forward, and

turn about at pleasure, without sail or oar, or human agency, and without any visible mechanism, except a huge boiler of hot water, and a complicated combination of wheels and paddles.

The assembled multitude were filled with astonishment and admiration. The harbour of Barcelona resounded with plaudits; and the commissioners, who shared in the general enthusiasm, all made favorable reports to the emperor, except only the treasurer Ravago. This man, from some unknown cause, was prejudiced against the inventor and his machine. He took great pains to undervalue it, stating, among other things, that it could be of little use, since it only propelled the vessel two leagues in three hours; that it was very expensive and complicated, and that there was great danger of the boiler's bursting frequently. The experiment over, Gavay collected his machinery, and having deposited the wooden part in the royal arsenal, carried the rest to his own house.

Notwithstanding the invidious representations of Ravago, Gavay was applauded for his invention, and taken into favour by the emperor, who promoted him one grade, gave him two hundred thousand *maravedises*, and ordered the jealous treasurer to pay all the expenses of the experiment. But Charles was then taken up with some military expedition, and the occasion of conferring an inestimable benefit on mankind was neglected for the business of bloodshed and devastation; while the honour which Barcelona might have received from perfecting this noble discovery was reserved for a city which had not yet started in the career of existence.

The fact that a vessel was propelled by steam as early as the sixteenth century thus rendered certain, the question next occurs, whether it in any way detracts from the honour due to Fulton, not for having made the first successful application of steam to purposes of navigation, (for he was even anticipated by Fitch, in the United States) but for having brought it into use over the whole civilized world. By no means. This experiment at Barcelona, owing to the absence of journals and newspapers, those modern vehicles and wings of intelligence, was unknown to the world generally, at the time of making it, as it ever was to Fulton. And, besides, who can tell but that in like manner many inventions, which constitute at once the pride and profit of the present age, may have existed centuries ago, in countries of forgotten civilisation.—*A Year in Spain.*

THE LARK AND THE HAWK.

How nimbly doth that little lark mount up singing towards heaven in a right line; whereas the hawk, which is stronger of body, and swifter of wing, towers up by many gradual compasses to his highest pitch. That bulk of body and length of wing hinder a direct ascent, and require the help both of air and scope to advance his flight; whilst that small bird cuts the air without resistance, and needs no outward furtherance of her motion. It is no otherwise with the souls of men in flying up to their heaven. Some are hindered by those powers, which would seem helps to their soaring up thither; great wit, deep judgment, quick apprehension, send men about with no small labour for the recovery of their own incumbance; whilst the good affections of plain and simple souls raise them up immediately to the fruition of God. Why should we be proud of that which may slacken our way to glory? why should we be disheartened with the small measure of that, the very want whereof may (as the heart may be affected) facilitate our way to happiness.—*BISHOP HALL.*

HOW MUST I DISPOSE MYSELF ON THE LORD'S DAY?

AVOID all servile work, and expend it only in such actions, as tend to the sanctifying thereof. God, the great Landlord of all time, hath let out six days in the week to man to farm them; the seventh day he reserves as a demesne in his own hand: if, therefore, we would have quiet possession, and comfortable use of what God hath leased out to us, let us not encroach on his demesne. Some popish* people make a superstitious almanach of the Sunday, by the fairness or foulness thereof, guessing at the weather all the week after. But I dare boldly say, that from our well or ill spending of the Lord's Day, a probable conjecture may be made, how the following week will be employed. Yea, I conceive, we are bound (as matters now stand in England) to a stricter observance of the Lord's day, than ever before. That a time was due to God's service, no Christian in our kingdom ever did deny: that the same was weekly dispersed in the Lord's day, holy days, Wednesday, Fridays, Saturdays, some have earnestly maintained: seeing, therefore, all the last are generally neglected, the former must be more strictly observed; it being otherwise impious, that our devotion having a narrower channel, should also carry a shallower stream.—*FULLER'S Wounded Conscience.*

* If it rains on the Sunday before Mess,
It will rain all the week more or less.—*Popish Rhyme.*

BUCKSTONE.

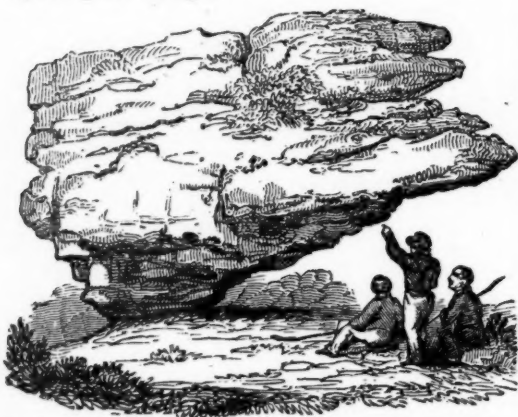
AMONG the many natural curiosities of our country, the admiration of the scientific, as well as of the ordinary observer, has long been excited by those huge single masses of rock, which, resting on a comparatively small pivot, and exactly balanced there, still stand as steadily as though the narrow part were uppermost, and the whole body were firmly lodged on its base. Such are the celebrated Boulder Stone of the North, and the Logan Rock of Cornwall. The woodcut on the next page represents with great accuracy the character of another called BUCKSTONE, on the borders of Gloucestershire and Monmouthshire.

Buckstone is by no means the largest of its kind; though in some respects, perhaps, it repays more than any other the visit of a tourist. Independently of its extraordinary form and position, the situation in which it is placed, gives it a very strong additional interest. Removed only a few yards from the summit of a high sugar-loaf hill, commanding one of the most varied and beautiful landscapes of which this country can boast, it is itself seen in some directions at a very great distance, conspicuous above the copsewood, which embosoms it on every side; and inviting us to examine only its own extraordinary character, it presents to us a view which would otherwise probably have escaped our notice altogether. This view would of itself amply repay us for the time required to make the excursion from any of the neighbouring places.

This rock is about three miles from Monmouth, near the village of Stanton. The tourist may reach it either by a footpath through beautiful woods and fields, or by a more round-about road in a carriage. The scene opening at this spot is very extensive and greatly diversified. It is bounded to the west and north by the mountains of Monmouthshire and Breconshire; towards the north-east and east, by the Clay Hills in Shropshire, and the Malvern Hills in Worcestershire; to the south-east, and south, by the long Gloucestershire range beyond the Severn.

Besides these counties, it is said, the experienced eye may discover points in Glamorgan, Radnor, and Somerset. The home views comprehend the Forest of Dean, some of the richest districts of Herefordshire, with one of the sweetest vallies of the Wye, whose silver thread is seen winding its way between the woods and rocks of the north-east, whilst immediately round the rock, and at the feet of the spectator, waves a noble ocean of oak woods, spread over a wide and undulating surface of hill and dale.

The rock itself is composed of a substance called millstone-grit,—a plum-pudding stone, consisting chiefly of sand and quartz pebbles, familiarly known in the neighbourhood by the name of Jackstones. Its circumference at the top is above fifty-three feet, whilst its base is less than eleven feet in girth. Its perpendicular height from the extremity of the projecting point to the level of the centre of the base is nearly fourteen feet. The whole mass rests on the middle of a square even table of stone, corresponding in extent very nearly with the extremity of the rock itself, and composed of the same material. But what makes the balance in this rock still more wonderful is, that this large square smooth insulated stone, which serves for its bed, far from being horizontal, is an inclined plane, sloping at an angle of almost twenty-five degrees; consequently, many bodies that might be balanced, on a level ground must of necessity roll down this leaning stone, yet this huge rock has kept its place for ages.



Geologists probably will almost unanimously agree, that the hand of man never interfered in either placing this rock on its present site, or in hewing it into its present form,—that it is the work of nature only. The imagination of the tourist indeed has often regarded it as the work of art, and pronounced it to be nothing less than a Druidical altar; and fancy may discern in an adjoining stone, the solid basin to receive the blood of the victim, or to cleanse the hands of the sacrificer. Certainly no place can be imagined more fitted for those priests of the oak and the mountain, who raised their altars “upon every high hill, and under every green tree,” than Buckstone. And perhaps there is nothing absurd in conceiving that they employed this natural altar, like many others which tradition assigns to the same purpose, in the performance of their cruel rites. All such inquiries, however, must at last end only in speculation; harmless it may be and amusing, but leading to no satisfactory result. Be this as it may, one can scarcely visit this spot, and have the mere question suggested to us, by the recollection that so gross a superstition for ages prevailed in our own island, without feeling a glow of gratitude to that Father of us all, who rescued us from its thick darkness, and

in its stead, gave us the light of eternal truth. And thus to the Christian this is still a sacred spot, a temple, where the sacrifice of thanksgiving may be acceptably offered.

“The place where man his God shall meet,
Be sure is holy ground.”

EXTRACT FROM A BOTANICAL DIARY.

* * * How often as a child I have played with the catkins of the hazel, (*pussy-cats*, as we used to call them) without dreaming that within were the embryos of the future nuts; and that in picking to pieces the blossoms of the hazel, I was idly destroying the promise of future fruit. Yet such is the fact! An examination of this plant shews the careful contrivance by which an Almighty Creator has preserved these seeds from the accidents of weather. The stamens, which contain the fruit-bearing principle, are disposed in clusters, from one end to the other of the catkin; and each cluster is sheltered by a little pent-house, which overshadows and protects them, tier above tier, in their snug retreats. While thus hanging upon the bough, not a drop of rain has the power of penetrating to the precious deposit within; although when the same catkin is surveyed in the hand, all the stamens are exposed to view. Had they been thus placed within a calyx or cup which grew, or which was liable to be turned into any other position, what frequent accidents might have happened to them. But the upright position of the catkin protects them from rain which falls steadily and downright; while its pliancy and suppleness enable it to bend from the wind, and thus secure its contents from the accidents of a side breeze, or the drifting shower. Thus deals the All Good Creator with all the objects of his care. And thus full of wisdom and contrivance is the structure of every plant we see!—E. T.

NATURAL HISTORY is no work for one that loves his chair or his bed. Speculation may be pursued on a soft couch, but Nature must be observed in the open air. I have collected materials with indefatigable pertinacity. I have gathered glow-worms in the evening, and snails in the morning; I have seen the daisy close and open; I have heard the owl shriek at midnight, and hunted insects in the heat of noon.—JOHNSON.

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